

# **noghostrobot**



# **field guide vol.3**

**GHOST ROBOTICS & BORDER VIOLENCE:**  
**From Palestine to Mexico, All the Walls Have Got to Go!**

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Ghost Robotics is responsible for violence in Gaza, on the US-Mexico border, and here at home in Philadelphia. These Field Guides are designed to help you learn more. Once you learn to spot death merchants, their “innovations,” and the displacement, state violence, and border violence they’re implicated in, you’ll be better equipped to stop them.

For even more info, or to get connected, visit [www.noghostrobot.info](http://www.noghostrobot.info).

### **GHOST ROBOTICS & BORDER VIOLENCE:**

From Palestine to Mexico, All the Walls Have Got to Go!

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## GUIDELINES/AGREEMENTS

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### **We keep us safe.**

- This is a public space where we don’t have an expectation of privacy, the content we share will take that into account.
- Tonight everyone’s name is friend, neighbor, comrade, etc.
- We will be recording this session to share on the website.

### **Palestine will be free.**

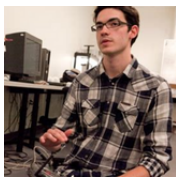
#### **Palestine will free us all.**

- Palestinian liberation is inextricable from our collective liberation.
- This is not a space for debate on this fact. Instead, our focus is on Ghost Robotics and its complicity in various forms of state violence.

# GHOST ROBOTICS

## What is Ghost Robotics?

Ghost Robotics is a company that develops and manufactures AI-assisted, weaponized robotic dogs, which cost approximately \$165,000 each. It was founded in 2015 at the University of Pennsylvania by two Penn engineering students, Gavin Kenneally (*Bad Dog 1.1*), who serves as the current CEO and Avik De (*Bad Dog 1.2*), who serves as the Chief Technology Officer, as well as Jiren Parikh (deceased), who was serving as the CEO at the time of his death in 2022. Their current executive team also includes Michael Subhan (*Bad Dog 1.3*), Chief Marketing Officer, and Matthew Joyner, Chief Revenue Officer.



**Bad Dog 1.1**



**Bad Dog 1.2**



**Bad Dog 1.3**

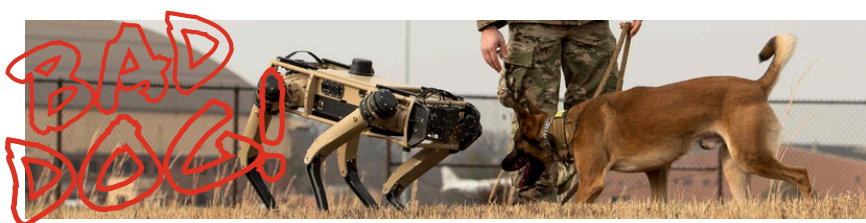
Ghost Robotics is headquartered at Pennovation Works, a Penn-developed property located at the corner of 34th St & Grays Ferry Ave. Pennovation Works is a 23-acre property that, in their words, is home to "state-of-the-art facilities, researchers, entrepreneurs, and industry partners solving real world problems and translating inventiveness into viable ventures," which is a pretty disingenuous way to describe manufacturing weapons of genocide and border violence.

Ghost Robotics received initial funding and support from Penn's PCI Ventures, which helps Penn faculty and staff commercialize their inventions and technologies. Ghost Robotics receives tax breaks through the Keystone Innovation Zone Tax Credit Program, which provides tax credits totaling up to \$15M annually to for-profit companies. Additionally, as has been lifted up in recent years through the [campaign to pressure Penn to pay PILOTS](#), the university, which serves as Ghost Robotics' landlord, does not pay property taxes.

In 2022, when six leading robotics companies signed onto an [open letter](#) pledging not to weaponize their technologies, Ghost Robotics notably refused. They have continued to court military contracts both domestically and internationally, and are "happy" to see their robots armed, in the words of their former CEO.

## What are robot dogs?

Robot dogs manufactured by Ghost Robotics are unmanned vehicles that can carry up to 22 pounds of material and withstand all terrain and weather conditions. Like walking drones, robot dogs both carry weaponry and act as tools of surveillance through built-in cameras and microphones. Armed with a submachine gun, Ghost Robotics' robot dogs are able to shoot up to a range of 1,200 meters.



## How do robot dogs work?

Ghost Robotics' dogs are AI-enabled and can also be controlled by remote operator. "Vision 60," the name for the robot dog model currently deployed in Gaza, is virtually indestructible. In Ghost Robotics' own words, "Even if the environment is completely unknown, vision sensors degrade or fail, you can be assured that when our legged robot does fail, slip or fall, it will get right back up and continue moving."

## Where are robot dogs being deployed?

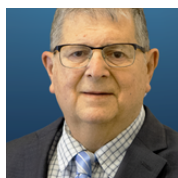
Ghost Robotics' Vision 60 robot dogs are currently on the ground in Gaza, having been purchased by Israel for around \$150,000 per unit. Ghost Robotics is also under contract with the US Department of Homeland Security, which is testing the robot dogs for use along the US-Mexico border. Ghost Robotics has shipped over 450 robot dogs and works with over 25 "national security partners" around the world.

Ghost Robotics claims to be the biggest supplier of walking robots to the US and its allies.

## Ghost Robotics + Robotican

In February 2024, Robotican, an Israeli manufacturer of autonomous robots, and Ghost Robotics announced their collaboration and Robotican became the official distributor of Ghost Robotics' products in Israel.

Robotican proudly boasts on their website that the V60 robot can “neutralize charges and shoot.” Pictured below are the Robotican co-founders, Eli Ben-Aharon, Chairman (*Bad Dog 2.1*), Hagai Balshai, CEO (*Bad Dog 2.2*), and Dr. Yam Geva, CTO (*Bad Dog 2.3*).



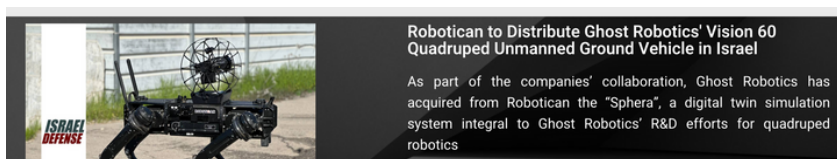
**Bad Dog 2.1**



**Bad Dog 2.2**



**Bad Dog 2.3**



## Ghost Robotics Acquisition by LIG Nex1

In December 2023, Korean defense company LIG Nex1 announced their intent to acquire 60% of Ghost Robotics for \$240M; a private equity investor will own the remaining 40%. The acquisition was expected to be finalized last month, in June 2024.

## US-Mexico Border Violence

Since 2016, Ghost Robotics has been awarded 21 U.S. government contracts, totaling more than [\\$14 million](#). In 2022, the [Department of Homeland Security announced](#) that they would be deploying robot dogs in the remote Arizona desert borderlands, and that they were partnering with Ghost Robotics to manufacture and train a quadruped that would navigate difficult desert terrain and withstand harsh heat and exposure.

# BORDER VIOLENCE

Ghost Robotics and their robot dogs are visibly striking forms of state surveillance, control, and violence. But border violence — much of it hidden from us — extends far beyond the visible or physical U.S.-Mexico border. In the midst of a booming border surveillance industrial complex, "smart borders" have emerged as one of the primary tools to deter people from crossing borders.

## What are “Smart Borders”?

In their groundbreaking [report on smart borders](#), the Immigrant Defense Project’s Surveillance, Tech & Immigration Policing Project, and the Transnational Institute write: "Smart borders involve the expanded use of surveillance and monitoring technologies including cameras, drones, biometrics, and motion sensors to make a border more effective in stopping unwanted migration and keeping track of migrants. Championing smart borders was — and remains — one of three key pillars of US Customs and Border Protection (CBP) strategy, along with physical barriers and personnel. Smart borders are also embedded in a logic of deterrence, which seeks, by way of militarized border infrastructure, detention, and deportation, to make unwanted migration so brutal and painful that it will dissuade people from even trying to enter the United States without authorization."

Proponents of border surveillances claim that these "innovations" are necessary for security and order. Border surveillance technologies are branded as "humane" and "smart" in an attempt to [normalize them](#): "Embracing such technologies, many leading Democratic and some Republican politicians argue that a “smart” border offers a humane alternative to Trump-era immigration policy. Yet... 'smart' or not, all border policing shares a common goal: to control human beings and to deny entry to those deemed undesirable or undeserving. In other words, the goal of a 'smart' border is not increased humaneness, but greater effectiveness in advancing this violent enterprise."

As the use of surveillance technology increases, people are pushed farther into the remote desert where they face the deadly conditions of dehydration and exposure. A [2018 report](#) from No More Deaths estimated that over 8,000 migrant deaths have been recorded in the southern borderlands since 1990, but because so many remains have never been found, we know that the actual count of migrant deaths is much higher.

These technologies are not "new" — violence and exclusion have always been features of U.S. migrant control policy. What is different, though, is the scope of these technologies, both in terms of the amount of information they collect and the places these technologies are employed. Many of the same technologies that are used to surveil, exclude, and deport migrants in the U.S. are used to watch and control Palestinian movement and life. Journalist Jimmy Johnson even coined the term [Palestine-Mexico border](#) to describe the apartheid politics and multi-billion dollar weapons and surveillance markets that underpin U.S. and Israeli enforcement.

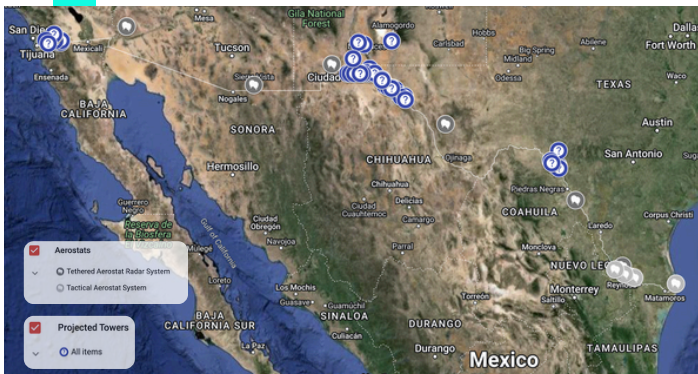
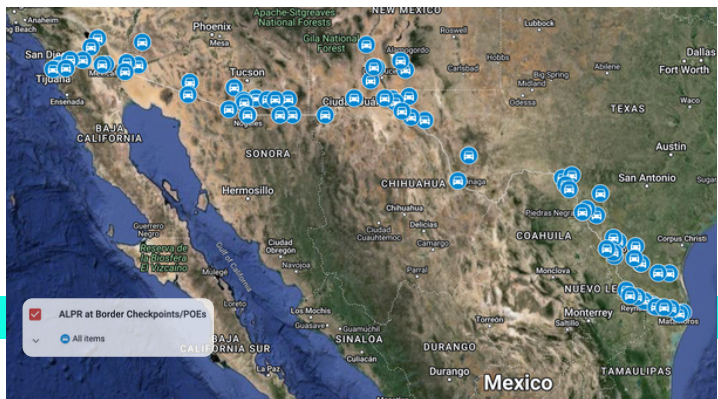
**Examples of technologies leveraged to criminalize both Palestinians and migrants entering the U.S. include:**

- AI-powered robot dogs
- Surveillance towers (including Integrated Fixed Towers from Elbit Systems, Remote Video Surveillance Systems from General Dynamics, and Autonomous Surveillance Towers from Anduril Industries), some of which can detect people up to 7.5 miles away
- Drones and sensors
- Biometric data collection and sharing between police agencies, border patrol, and military
- Social media network analysis and monitoring
- Digital IDs, which are often needed to access essential services, but also serve as tracking devices
- Movement tracking through cell phones, automated license plate readers, and more
- "Risk assessment" algorithms and tools that mark people potentially "dangerous" or "criminal"



# MAPPING BORDER VIOLENCE INFRASTRUCTURE

Thanks to the diligent work of [Electronic Frontier Foundation](#), people interested in understanding the landscape of border violence infrastructure along the U.S.-Mexico border can dig into [this interactive map](#). The map allows you to view the placement of surveillance towers, checkpoints, radar systems, and more.





In the past few decades, we've seen a boom in government contracts to private corporations. [From 2008 - 2020](#), Immigration and Customs Enforcement (ICE) and Customs and Border Protection (CBP) issued over 105,000 contracts totaling \$55 billion to private corporations. This spending has only increased under President Biden. In [2023 alone](#), ICE and CBP issued over 8,700 contracts, worth \$9.8 billion. The same companies — including Elbit Systems, General Dynamics, L3Harris, Lockheed Martin, G4S — that fuel genocide against Palestinians supply ICE and CBP with weapons and surveillance technologies.



These new and changing technologies are used to police, exclude, and mark some people as dangerous and undeserving of safety and life. And while the use of weaponry and surveillance technologies is vast, their existence is not inevitable.

**Collectively** — locally, nationally, and internationally — **communities are organizing against and fighting not just these technologies but the logics behind them.** People are **refusing the logics of borders** themselves and the idea that we need exclusion and violence in order to feel safe and free. Across the world, people are **building transnational solidarity**, imagining community beyond borders, and working to create a world from the U.S. borderlands to Palestine where people can live freely and safely in the place they call home.

*[image posted originally by @fortunadivineytrixx in Nov 2020]*



# SUCCESSFUL CAMPAIGNS

## What has worked?

- Developing sustained, strategic campaigns that **employ a variety of tactics** and have **clear aims and targets**.
- **Mapping sites and practices of criminalization, surveillance, and repression** and the public, private, and university entities that support them.
- Identifying **secondary targets and pressure points** (banks that finance a company, contractors, etc.).
- **Organizing direct action** — occupation, strikes, blockades, pickets, property damage, banner hangs, and more — **to disrupt the status quo**.
- Toxifying corporations and cops through **narrative change**.
- **Targeting and vilifying executives** and forcing them to leave the company.
- **Educating media** and leveraging their influence to help enact reputational damage on companies.
- Calling out and **challenging copaganda, Hasbara, and xenophobia**.
- **Amplifying stories** of those we're struggling alongside, from incarcerated people and their families to subjects of coordinated state violence.
- **Disrupting business models through policy campaigns**, making it difficult or impossible to conduct business as usual.
- **Blocking acquisition growth** to prevent both public and private entities from further expansion.
- **Diverting investors and capital** by proving that a company is not a viable or profitable investment through narrative work and direct outreach.
- **Educating and mobilizing the public** through public events, canvassing, phone and text banking, and collecting signatures and organizational endorsements.
- **Building capacity of local communities** to identify and resist criminalization, surveillance, and repression and imagine and work towards different futures.

# SUCCESSFUL CAMPAIGNS

## Past and ongoing campaigns have targeted:

- Border wall construction at Quitobaquito Springs in southern Arizona
- Local border patrol checkpoint in Arivaca, Arizona
- Mobile driver's licenses, which support the digital infrastructure of migration control
- Elbit Systems of America in Cambridge, NH, resulting in a day long shutdown of work
- Securus, the nation's largest prison and jail telecoms corporation
- Palantir, whose tools fuel deportations and surveillance
- Criminalization and tech surveillance in education (through the NOTICE Coalition)
- Elbit in Oldham, UK and Tamworth, UK
- Condiltox Laboratories in London, UK
- RWE Lignite mine expansion in the Hambach Forest, Germany



# so what's next, dogcatcher?

***Ghost Robotics was founded in 2015, less than 10 years ago. Its existence is not inevitable, and neither is the occupation of Palestine.***

We decided to host these teach-ins to help people learn about Philadelphia-based weapons manufacturers Ghost Robotics after news of the deployment of Ghost Robotics robot dogs in Gaza surfaced in March 2024. We want to highlight the connections between different sites of struggle, and also encourage everyone to take up the struggle as their own, wherever they are, with whatever they have.



[original image: bear scaling a border wall, Arizona 2018; circulated on twitter in 2024]

When you scratch the surface of a company like Ghost Robotics, you can easily see the necessity for internationalist, abolitionist solidarity. The same bad guys like Ghost Robotics show up across so many different struggles, whether they're driving displacement and gentrification in Philadelphia, or providing weaponized robots equipped for surveillance and killing to state violence workers all across the globe. From Philly to Palestine, all our struggles are intertwined.

The call for those of us committed to collective liberation, therefore, is the same no matter where we find ourselves or where we call home. We must find our place in the struggle and fight like hell, until we're all free.

Nine months into the Zionist entity's all-out assault on Palestinian life and over 75 years after the Nakba, the grief of what we are witnessing is so immense — we know that in isolation, we can feel overwhelmed and frozen. Please know that the rage, heartbreak, and disgust that you feel is evidence that you have not lost your humanity. We hope you will find others to join with in fighting for a better world, where the kind of violence we are witnessing is impossible, where the people of Palestine live freely, with ease, and thrive in their homeland.

[As Susana Bulhawa shared on May 28th:](#) **"It is our duty as humans, and especially those of us who are citizens of western enablers, to cultivate revolutionary and radical optimism in ourselves and in others. We are world-making something just and gentle, predicated on compassion and social and environmental responsibility. Be proud and stay the course. We will win."** We hope that through these teach ins we've shown not just a clear picture of what we're up against, but also that there are so many different ways that we can fight and win.

**Take heart, take care, and take action! You are needed, you are not alone, and there is a role for each of us to play in cocreating a more liberated future.**

# so what's next, dogcatcher?

There's a growing and diverse movement in Philly committed to shutting down Ghost Robotics. We hope you will find your place (or make your place!) in that movement. Remember, it only takes a few friends to make a crew! Who knows what you can do!

If you want to connect with us, you can send us a note via the encrypted form at [noghostrobot.info/signup](https://noghostrobot.info/signup), or email us at [noghostrobot.info@proton.me](mailto:noghostrobot.info@proton.me). Your responses won't be shared outside of our crew. While our capacity may not allow us to respond to all people who reach out to us, we thank you all for your support, interest, and encouragement. Every person who attended these teach-ins made them what they were, and we are tremendously grateful to each and every one of you.

## Thank you, thank you!

Finally, we also want to extend deep gratitude to all of the neighbors and comrades who helped to make these teach-ins possible, including people who helped us put up fliers all over town, friends who printed materials for us, folks who lent us sound equipment and chairs, our incredible hosts at the Smith Playground Rec Center and at First Unitarian Church, the deeply wise, deeply caring, and deeply committed speakers who generously shared their expertise and experience to enrich these offerings, everyone who came out, spread the word, or brought a friend, and all of the freedom fighters and organizers in our various lineages, whose shoulders we stand on, and whose torch we hope to carry forward and pass along.

Onward!







**BYE BYE  
BAD DOG!**